

**CLAIMS**

1. A power factor controller or corrector in a regulated power supply circuit,  
which comprises separating load and line regulations in the power supply circuit and  
providing a  $1/x^2$  modulator module for the line regulation in which switching  
5 frequency is inversely proportional to the square of the line voltage.
2. A power factor controller or corrector according to claim 1, in which the load  
regulation is achieved by a  $1/v$  pulsewidth generator which generates a pulse duration  
that is inversely proportional to the voltage from a differential gain circuitry that  
produces a control voltage which is proportional to the difference between a fraction  
10 of output voltage and a fixed reference voltage.
3. A power factor controller or corrector according to claim 2, in which a loop  
delay is provided between the differential gain circuitry and the  $1/v$  pulse generator.
4. A power factor controller or corrector according to claim 1, 2 or 3, combined  
with a hybrid power supply having a  $1/x$  frequency modulating module, said  
15 combination comprising cascading the  $1/x^2$  module with the  $1/x$  module.
5. A power factor controller or corrector according to claim 4, in which the  
hybrid power supply is as disclosed and claimed in U.S. Patent No. 5,357,418 which  
is incorporated herein by reference.